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Sonderforschungsbereich 186
der Universität Bremen

Statuspassagen und Risikolagen
im Lebensverlauf

GRADUAL RETIREMENT IN GERMANY¹

von

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Preface

This paper deals with gradual retirement in Germany, the research field of the project C5 within the Special Collaborative Centre 186. The project analyses transitions from employment into retirement, especially reactions to a new social policy regulation: the partial pension which was introduced by the Pension Reform of 1992.

In Germany, the participation of elder workers on the labour market has been declining since the beginning of the 1970s, while the population is ageing. Rising unemployment rates and relatively high benefit levels in the pension system have encouraged a "culture of early retirement" which has been supported so far by the relevant actors: state, employers and workers. Since the financing of pensions and unemployment benefits becomes more and more expensive for the economy, alternatives to an early and complete withdrawal from the labour force are being discussed. One of the most popular issues is the gradual transition from working life to retirement via partial work.

In the first part the paper describes the labour market position of older workers in general, the current modes of labour exit and the institutional conditions set by the German social security system, which regulate the status passage from work to pension, with a special regard to the opportunities for gradual retirement. The second part concentrates on the micro level, the employees' attitudes towards work and retirement and the employers' demand for part-time work of older people. At the moment, company strategies to deal with an ageing workforce are mostly determined by externalisation strategies, but also examples of practical measures of a gradual exit from paid work in selected industries are given.

Prof. Dr. A. Weymann
Sprecher des Sfb 186

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1 INTRODUCTION

When and how to retire have become an important focus of economic and social policy in Germany. As in many other European countries, the reasons for this are population aging, labour market problems, particularly, a high rate of unemployment, and the financing of social security, especially pensions. In Germany, however, in contrast to other countries, there is an important additional factor which makes the search for appropriate solutions to the challenges of structural change much more difficult. That additional factor is the process of German unification.

In Germany, as in other countries, the issue of gradual retirement is of the utmost relevance to gerontologist and economist alike. But it also touches in a very practical way on the economic objectives of firm and household and of the state in the design and implementation of economic and social policy. Such objectives may frequently be in conflict or relate to the circumstances of different time horizons - the prevailing situation with its high unemployment, for example, as against the expected future shortage of qualified manpower due to demographic change.

The design and organisation of gradual retirement can be undertaken at various levels: by individual firms, under collective agreements, or by the state with legislation. And gradual retirement schemes themselves can vary enormously, in terms, for example, of their time-frame or of their effect on the income of employees. The latter will depend on alternatives for combining reduced work-time with earnings from employment and with the benefit payments that emanate from a variety of different sources. Our purpose hereafter will be to describe the most important of such alternatives as exist in Germany and so provide a picture of the country's practice of, or potential for, gradual retirement.

Our paper will start with some data on the labour-market situation of older workers in Germany and on the legal frame-work more especially of statutory old-age insurance. We shall review the various options for labour-market exit and take a look at the new instruments introduced under the Pension Reform Act of 1992. We shall then turn to firm strategies providing examples of past and current models of gradual retirement and finally, in light of the new possibilities opened up by the 1992 Act, we shall attempt briefly to assess the prospects for gradual retirement in Germany in the future.

2 MACRO ISSUES AND POLICIES

2.1 RECENT TRENDS

2.1.1 The Labour Market Position of Older Workers

Older workers in Germany constitute a minority in the labour market. In 1993 people aged 55 and over accounted for only 11 % of the total labour force (Table 1).

Table 1: The age structure the of labour force in Germany 1993

Age	Total	Men	Women
	in %		
< 20	3.9	3,8	4.0
20-24	10.2	9,6	11.1
25-29	13.7	13,2	14.5
30-34	13.8	13,8	13.6
35-39	12.5	12.1	12.7
40-44	12.3	11.9	12.7
45-49	10.1	10.0	10.2
50-54	12.6	12.9	12.1
55-59	8.0	8.8	7.0
60-64	2.2	2.9	1.3
> 64	0.8	0.8	0.8
	100	100	100

Source: Mikrozensus (deviations from 100 % are due to roundings).

Since the early 1970s, labour-force participation rates (LFPR) of men aged 55 and over dropped drastically (see Jacobs and Schmähl, 1989). This can clearly be seen from Figure 1: in West Germany the LFPR of men aged 63 was 67 % in 1970. After the introduction of a flexible retirement age in statutory pension insurance (in 1973) the LFPR went down within 2 years by 20 % and within 10 years by 40 %. During recent years the LFPR of men aged 63 has been fairly stable around 20 %.

Figure 1: Labour force participation of different male cohorts:



Source: Mikrozensus (several years); data up to 1991 only West Germany.

Table 2 gives recent data on LFPR for Germany (West and East). Up to the age of 54 male LFPRs are relatively stable. Then a steady decline in higher ages takes place. Female LFPRs show the same picture, however on a lower level. A sharp drop of LFPRs occurs at 60, when female employees become eligible for an old-age pension. In 1993 only 40 % of men and 11 % of women were still working as employees at the age of 60.

Table 2: Labour-force participation rates of older men and women aged 55 and more in Germany 1993

Age	55	56	57	58	59	60	61	62	63	64	> 64
Men	83	76	72	67	61	47	39	31	20	16	4
Women	55	46	42	36	32	15	12	10	8	6	2

Source: Mikrozensus.

About half of the women working between the age of 55 and 60 were on a part-time contract. For the 60 to 65 age group this figure is slightly higher even. For men part-time work is of little importance except that, of men still in the labour force after 65, 40 % work part-time.

Modes of Labour Exit

LFPRs are influenced by a variety of factors. The modes of retirement available to those aged 55 and over will very much depend on social-security provision, there being a range of possible pathways for transition from working life into retirement. In what follows, we first examine the options for exit from the labour market before eligibility for an old-age pension and, thereafter, we review the various options available within statutory pension insurance for both blue- and white-collar workers. Figure 2 provides a comprehensive overview of existing options. The principal modes of labour-market exit prior to drawing a pension are:

- pre-retirement arrangements (Vorruhestand);
- unemployment benefit up to the pension-insurance special early-retirement age, often topped up by additional payments by the employer.

In West Germany, from 1984 until 1988, the Pre-Retirement Act was in force. It enabled workers aged 58 and over who withdrew from the labour market to receive bridge payments from their former employer until such time as they were able to draw a social-insurance pension. The law served to relieve labour-market pressures since older workers could quit the labour force without the stigma of unemployment. The Act required that such arrangements be the subject of collective agreements under which the employees concerned were eligible for pre-retirement benefits.

Provided such benefits constituted at least 65 % of final gross earnings and provided the vacated job was refilled, then the Federal Labour Office paid a subsidy of up to 35 % of the pre-retirement benefit as well as the employer's contribution to statutory health and pension insurance. About 70 % of employees entitled to take up pre-retirement benefits under collective agreements actually did so. Many branches, however, the public sector being one example, did not offer this alternative to their employees.

From the beginning of 1989 until end 1991 only, this Act was replaced by the Part-time Work in Old Age Act which was a first attempt to establish a phased retirement system at the federal level. Employers who concluded a part-time work agreement with an employee aged at least 58 could receive a subsidy from the Federal Labour Office provided certain conditions were met (see Schmähl and Gatter, 1994, p. 441):

- the employee had to reduce his weekly hours by half, and work at least 18 hours a week on average;
- the employer was obliged to supplement pay by at least 20 %;
- the employer also had to make up the difference in pension insurance contributions between part-time pay and 90 % of the previous pay level;
- the vacant job had to be filled with someone who was unemployed.

This law was not financially attractive either for employers or employees and failed.

Figure 2: Options for transition into retirement provided for under social insurance legislation in Germany

Age limit		<div><div></div><div>→ 58</div><div>59</div><div>60</div><div>61</div><div>62</div><div>63</div><div>64</div><div>65</div><div></div><div></div></div>									
<div>Pension because of vocational disability</div> <div>3 yrs compuls. contrib./last 5 yrs</div>	<div>main-ly em-ployed</div> <div>↔</div>	disabilitiy pension and reduced employment								Old age pension	
<div>Invalidity pension</div> <div>3 yrs compuls. contrib./last 5 yrs</div>	<div>main-ly em-ployed</div> <div>↔</div>	Invalidity pension and marginal employment at most								Old age pension	
<div>"59" Regulation</div> <div>52 wks unemploym /last 1 1/2 yrs</div> <div>8 yrs compuls. contrib. /last 10 yrs</div>	<div>57yrs+4mo</div> <div>mainly employed</div> <div>→</div>	unemploy-ment benefit		Old age pension for unemployed persons							
<div>Pre-Retirement</div> <div>1990-92 in the 5 new states</div> <div>(the former GDR)</div>	<div>55</div> <div>Special pre-retirement benefit</div> <div>→</div>	Old age pension for unemployed persons									
<div>Pre-Retirement</div> <div>for women 1984-88 by law</div> <div>since then by collective agreement</div>	<div>mainly employed</div> <div>→</div>	Pre-retire-ment benefit		Old age pension for women * insured for a longer period							
<div>Pre-Retirement</div> <div>for men 1984-88 by law</div> <div>since then by collective agreement</div>	<div>mainly employed</div> <div>→</div>	Pre-retirement benefit		Old age pension for persons insured for a long period *							
<div>Full pension at 60 for women</div> <div>10 yrs compuls. contrib. from age 40</div>	<div>mainly employed</div> <div>→</div>	Old age pension for women insured for a longer period									
<div>Full pension at 60</div> <div>Disabil /vocation disabil /invalidity</div> <div>35 yrs contribution</div>	<div>many years in employment</div> <div>→</div>	Old age pension in the event of reduced fitness to work									
<div>Flexible (full) pension at 63</div> <div>35 yrs contribution</div>	<div>many years in employment</div> <div>→</div>	Old age pension for persons insured for a long period									
<div>Full pension at 65</div>	<div>prior employment</div> <div>→</div>	Normal old age pension									
<div>Partial pension</div> <div>entitlement to a retirement pension</div> <div>fewer hours/less pay</div>	<div>Employment</div> <div>→</div>	<div>individual combination of employment and partial pension</div> <div>→</div>	<div></div> <div>→</div>	<div></div> <div>→</div>	<div></div> <div>→</div>	<div></div> <div>→</div>	<div></div> <div>→</div>	<div></div> <div>→</div>	<div>Full pension</div> <div>→</div>		

* if the respective requirements are met. If not, entitlement to pre-retirement only 3 years before the normal retirement age of 65 years

yrs = years

wks = weeks

For many employers the Pre-Retirement Act was less attractive than the following alternative. For older workers who become unemployed, statutory pension insurance provides an opportunity for early transition into retirement, whereby, after receipt of unemployment benefit, an old-age pension can be drawn at 60 years. A large number of employer/employee agreements made use of this pathway, many of them providing for additional financial compensation by the enterprise. The maximum period during which unemployment benefit can be received is now 32 months, and the older unemployed are now eligible for the latter without being obliged to look for a new job. Under certain circumstances employers have to reimburse part of the unemployment benefit. In other cases, if financial compensation is paid by the employer, the benefit is reduced.²

After the socialist economy of former East Germany collapsed in 1989 the number of the regularly employed in East Germany dropped by 2.3 million between 1990 and 1993 (28 %). Nevertheless, the "official" number of unemployed in East Germany was only 1.2 million. The reduction in the number of the unemployed was in large measure due to the very wide coverage of pre-retirement measures (Schmähl, 1992b, with further references). Even before the introduction of the DM (July 1990) and unification (October 1990), the East German Government in February 1990 had brought into force an initial act which offered pre-retirement benefits to men from the age of 60 and to women from the age of 55. The benefit was 70% of the last net earnings until the drawing of an old-age pension under the social insurance system of the German Democratic Republic, namely at 60 for women and 65 for men.

After unification of the two German states, this was replaced by a special pre-retirement benefit, which was paid to women from the age of 55, to men initially from the age of 57 and later also from 55. Benefits were 65 % of individual average net earnings over the last three months, and were paid by the Federal Labour Office. In July 1993 the number of pre-pensioners in East Germany peaked at 857 thousand. This was almost one third of official and "hidden" unemployment combined. These benefits will continue to be paid until 1997, but in the meantime many beneficiaries will reach 60, which will enable them to claim an old-age pension.

In contrast to West German pre-retirement agreements, workers who were pensioned off in this way in East Germany seldom chose this route of their own accord, but were mostly forced to retire early because the only other alternative was to become unemployed. Beside financial reasons, such as lower incomes resulting also in lower retirement benefits, people in East Germany expected to retire much later. In former socialist society, life at the workplace was a much more important facet of everyday existence than in market economies. Therefore some cohorts in East Germany have been profoundly affected by structural change after the collapse of the socialist economy and society.

2.1.2 Pensions and Social Security

The German statutory pension scheme is a mandatory pay-as-you-go public pension insurance for all white- and blue-collar workers. Only permanent civil servants and certain groups of self-employed are not covered by this system. Craftsmen are insured on a compulsory basis, other self-employed on a voluntary basis. 80 % of revenue is from income-related social-security contributions from earnings up to a contribution ceiling. Contributions are paid half by the employer and half by the employee. The other source of finance is federal grants. These are intended to compensate for pension-insurance expenditure aimed at interpersonal redistribution. Retirement benefits depend on the average relative earnings (i. e. individual gross earnings to average gross earnings in every year of insurance) and the number of contribution years. Benefits are linked to the actual earnings level of all currently employed people and adjusted regularly to the net average earnings of all employees. Therefore pension policy is not primarily aimed at avoiding poverty, i. e. in principle no minimum pension exists, but to maintaining to a given extent the former standard of living (earnings replacement). Statutory pensions are by far the most important source of income in old age for most elderly German citizens.

The German statutory pension scheme makes a clear distinction between disability and old-age pensions. While for old-age pensions a certain age is required, this is not a precondition for disability pensions. Only 5 years of insurance and 3 years of contribution payments within the last 5 years are required. There are two types of disability pension. Pensions for vocational disability are awarded to people who are no longer able to carry out the job for which they are qualified. The disability pensioner is expected to work part-time in another job in addition to the pension in order to secure a full income. Invalidity pensions are awarded if the individual is no longer able to work at all. If a worker eligible for a disability pension is unable to find a part-time job within a certain time the disability pension is usually transformed into an invalidity pension.

Age of retirement

In Germany a range of retirement ages for claiming an old-age pension exists, offering certain flexibility in the transition from work to retirement. Table 3 gives a broad view of the different types of pension: vocational disability, invalidity and old-age pensions. In 1993, 30 % of all new male pensioners claimed a vocational disability or invalidity pension and 70 % an old-age pension (women 80 %). As far as old-age pensions are concerned, more than 1/3 of men and as many as 50 % of women claimed an early old-age pension at 60. One quarter of male old-age pensioners used a flexible old-age pension at 63, and about 40 % (men) and 50 % (women) took up an old-age pension at the official retirement age of 65. But of all new pensioners in 1993 take-up at the official age was only 1/4 for men and less than

40 % for women. Therefore the average retirement age even in statutory pension insurance is below 60 years. The average age of exit from the labour force, however, is even lower.

It should be noted that up to now pensions claimed prior to the official retirement age are not reduced, as might be expected, by deductions because of the longer period of pension receipt. This is in principle a strong incentive to retire as early as possible.

Table 3: Use of different retirement options in 1993

	Men			Women		
	absolute	in %	in %	absolute	in %	in %
Old-age pensions	391.477		100	396.343		100
for severely handicapped persons (60)	39.058	7	10	6.707	1	2
for long term unemployed (60)	102.203	18	26	9.635	2	2
for insured women (60)	-	-	-	182.721	37	46
for long-term insured (63)	95.098	17	24	12.050	2	3
regular pension (65)	153.403	27	39	185.224	37	47
Disability and invalidity pensions	170.800	30		100.741	20	
SUM (pensions of insured)	562.277	100		497.084	100	

Source: VDR (1994) and own calculations (deviations from 100 % are due to roundings).

2.2 NEW PUBLIC POLICIES

2.2.1 Pension Reform of 1992

Introduction of partial pensions

The 1992 Pension Reform Act makes it possible for all old-age pensions in Germany not only to be taken up as full pensions but from now on also as partial pensions. By combining one third, one half or two thirds of full retirement benefits with earnings from a part-time job, a more flexible exit from the labour force for older workers has been created, thus providing a

model of late phased exit from the labour market into retirement. This was done because one objective of the reform act was to extend working life, to postpone retirement. Models which favour gradual exit before the earliest age of retirement in statutory pension insurance have been advocated by both trade unions and employers.

For partial pensioners before the age of 65 there exist ceilings for earnings beside the partial pension which depend on the individual's former earnings and the type of partial pension chosen³. The individual earnings ceiling is higher the lower the percentage of the full pension claimed as a partial pension, and the ceiling is linked to increases in average net earnings of all employees. Table 4 shows ceilings for supplementary earnings for a so-called "standard pensioner", a person who has 45 years of insurance and who earned average earnings during this period. If we assume that this pensioner also had an average monthly gross earning from full-time employment in his last working year of 4333 DM, his gross income from pension and employment can be seen in Table 4.

Table 4: Example for calculating gross income under the partial pension scheme for a standard pensioner (West Germany, 1995)

Type of partial pension or full pension	Supplementary earnings limit (DM)	% of last gross earnings	Pension (DM)	Pension and labour earnings (2)+(4)	% of last gross earnings
(1)	(2)	(3)	(4)	(5)	(6)
One third	3,220	74	690	3,910	90
Half	2,415	54	1,035	3,450	80
Two thirds	1,610	37	1,380	2,990	69
Full pension	580	13	2,070	2,650	61

Source: BfA-Mitteilungen, 1/95, calculated according to Viebrok, 1993, 98

Concerning gross income for pensions and earnings, we can see that partial retirement seems financially attractive if earnings from part-time employment are as high as the ceiling. For individuals and households net instead of gross income is in many respects decisive. Because income taxation for pensions and earnings is different, calculating the net income effect is rather complicated and depends on the mix of pensions and earnings.

In Table 5 some calculations are made, assuming an income-tax rate for a married sole breadwinner, and the contribution rate for compulsory social security at the beginning of 1995, which is 19.2 % (employee's part) of gross earnings. Income tax on pensions from the statutory pension system have to be paid only for a part of the pension, which is designed to be comparable to the "return on capital", so pensions in fact are almost tax free. Earnings below 580 DM (1995) are not burdened by social insurance contributions. Pensioners have to pay contributions to statutory health and long-term care insurance (6,65 %).

Table 5: Sample estimates of net income under the partial pension scheme for a standard pensioner (West Germany, 1995)

Type of partial pension or full pension	Supplementary earnings limit (DM)	Pension (DM)	Income taxes (DM)	Contributions to social security (DM)*	Net income (DM) (2)+(3)-(4)-(5)	In % of last net earnings (2992.32 DM)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
One third	3,220.00	690.00	334.33	664.13	2,911.54	97
Half	2,415.00	1,035.00	214.66	532.51	2,702.83	90
Two thirds	1,610.00	1,380.00	99.16	400.89	2,489.95	83
Full pension	580.00	2,070.00	0	137.66	2,512.34	84

* In Germany there exist different contribution rates to health insurance funds.

Source: BfA-Mitteilungen, 1/95, estimated according to Viebrok, 1993, p. 98.

Regarding net income from pensions and earnings, we can see that a full pension with only marginal employment yields an income at least comparable to that which could be achieved with a partial pension. This might be one of the reasons why little use has been made of this new regulation so far.

In 1992 and 1993 only 846 men and 1,067 women chose partial retirement as a phased exit from working life (Table 6).

Table 6: Transitions into partial retirement

Partial old-age pensions	1992		1993	
	Men	Women	Men	Women
for severely handicapped (60)	70	14	114	14
for long term unemployed (60)	11	-	20	1
for insured women (60)	-	342	-	541
for long-term insured (63)	248	78	378	71
regular pension (65)	4	-	1	6
SUM	333	434	513	633

Source: VDR-Statistics.

Table 7: Use of the different types of partial pension 1993

	Men		Women	
	absolute	in %	absolute	in %
One third	140	27	193	30
Half	211	41	268	42
Two thirds	162	32	172	27
SUM	513	100	633	100

Source: VDR-Statistics and own calculations (deviations from 100 % are due to roundings).

As can be seen from Table 6, most male partial pensioners use this option at the age of 63. Some men claimed a partial pension as disabled. Females make fairly full use of the pension for women at the age of 60. About 40 % of pensioners claim half of the full pension (Table 7).

Why, then, was disappointingly little use made of this new form of flexible retirement, which had been discussed and advocated before its introduction? The main reason seems to be the unfavourable labour-market situation in Germany. There was a broad political and social consensus to the effect that early exit of older workers was better than unemployment of young people. When reducing the workforce, total reduction is preferred. Moreover, expectations concerning early exit have developed over time, influenced also by institutional arrangements for early retirement.

Secondly, partial pensions can only be claimed by women as of 60 and for most men as of 63 (although for some at 60). After the age of 65 a partial pension ceases to be attractive because as of that age there are no further earnings ceilings for people choosing full retirement.

The regulations on individual earnings ceilings are very complicated and compliance has to be revised regularly. This implies high administrative costs for social insurance and for the employer. The employee runs the risk of being downgraded to a lower type of partial pension or, when he earns too much, of losing his pension altogether. But since employees in general want to earn up to the earnings ceiling, previously negotiated wage increases can result in "excess" earnings.

On the company side, in contrast to the situation in Sweden, there is a general lack of part-time jobs especially for men.

Age of Retirement

From the year 2001 onwards the retirement ages for a pension without deductions ("reference retirement age") will gradually be increased until 2012 when 65 will become the reference retirement age for a "deduction free" old-age pension for both men and women. Earlier

retirement will then still be possible and the earliest retirement age will be 62. Only disabled people will still be able to stop working at 60. For every month a person retires earlier than the reference retirement age reductions in pension benefits of 0.3 % will occur. A reduction of 3.6 % per year does not provide any strong incentive to work longer because it is still not actuarially fair (see Börsch-Supan, 1992, pp. 551). For each month a pension starts after the 65th birthday, a supplement of 0.5 % is added to the pension.

It is by no means certain that the introduction of deductions will have a positive impact on the use of gradual retirement⁴. On the one hand, it seems desirable for people who retire before the age of 65 (the official retirement age) to compensate reductions in pension benefits by earnings from part-time employment. On the other, the calculation of supplementary earnings limits will become even more complicated than it is nowadays because deductions also have to be taken into account. If invalidity and disability pensions are also deduction-free in the future, it will be important to avoid this type of pension becoming a loophole for many of those who want to retire early.

3 MICRO ISSUES AND POLICIES

3.1 RECENT TRENDS

As mentioned already, the German legislator tried on several occasions to introduce gradual transition into retirement. But these attempts failed. Whether there is an opportunity in practice to establish gradual retirement in Germany will depend on decisions at the micro level of the economy, influenced by preferences of individuals and by the objectives of enterprise. The following remarks are intended to provide some information about the decision-making of employers and employees and the practical problems of implementing gradual retirement and part-time work of older workers.

3.1.1 Attitudes Towards Work and Retirement

For most *employees* earnings from employment are their main source of income and it is gainful employment also that stabilises individual identity. But for many employees also, depending on working conditions, health status etc., employment is a burden. Therefore decisions of older employees concerning transition to retirement are mainly influenced by its effect on their income, social relations, health, type of work and situation at the workplace. Workers, for example, facing high health hazards are likely to try to reduce the work load even by accepting high losses of income. Under such circumstances, a model of gradual retirement, which delays the transition to retirement would hardly be acceptable, but phased retirement at a lower age can help to decrease the pressures of work and maintain a relatively

high level of income. When gainful employment implies a high level of individual satisfaction, delaying exit from work through gradual retirement meets the income aim while preserving the employee's work-dependant social status. These examples show that gradual retirement corresponds to different employee preferences and that many employees are in principle likely to be interested in retiring step by step.

Subjective data of the German Socio-economic Panel⁵ show that more than one third of all men aged 50 years and over would accept a part-time job, were the loss of income to be substituted by a partial pension. Nearly 40 % of all women in full employment could also imagine using the partial pension option (see DIW, 1988, p. 54). A question concerning the preferred beginning and ending of phased retirement revealed a significant preference for an early transition into retirement. Male respondents on average would like to start gradual retirement at 57½ and to end it at about 60½. The actual age they expected to retire was on average about 61½ years. Women preferred beginning and ending phased retirement some months earlier than men, their expected retirement age being 60 (Table 8). This clearly demonstrates that expectations are strongly influenced by existing institutional arrangements. The strong preference for leaving the workforce step-by-step as early as possible is one explanation for the low interest in the partial-pension option under the 1992 Pension Reform Act, which permits gradual retirement only when the employee is entitled to an old-age pension. Moreover that partial pension is not as financially attractive as the hypothetical partial-pension scheme on which the questions in the Socio-economic Panel were based. A further result from the panel survey is that blue-collar workers especially would like to retire as early as possible.

Table 8: Supposed beginning and ending of partial pensions on average and expected effective average age for full retirement according to the Socio-economic Panel

Group	Gender		Occupation			
	Men	Women	Blue collar workers	White collar workers	Public servants	Self employed
Average Age						
Expected effective age for full retirement	61,4	60,0	60,6	61,3	61,9	60,8
Start of partial pension	57,5	56,4	57,2	57,3	57,6	57,0
End of partial pension	60,7	59,8	60,2	60,8	60,4	59,6

Source: DIW, 1988, p. 57.

Empirical research on work in old age indicates a strong preference for a shorter working period within the life cycle (see Landenberger, 1983, pp. 23). A study of the attitudes of employees aged 49-60 to reducing work time indicated that 65.5 % would prefer early retirement compared to fewer weekly work hours or longer vacations (see Engfer et al., 1983, p. 101 or Viebrok, 1993, p. 81). Younger employees voted mostly for longer holidays and

middle-aged people would like to work fewer hours per week. The Institut für Arbeitsmarkt- und Berufsforschung (IAB) asked employees aged 55 or more about their attitudes to transition to retirement: 60 % favoured early exit. Bad health and lack of job satisfaction were frequently cited as reasons for early retirement (see Blaschke et al., 1986, p. 277). A survey by the Emnid research institute confirms that health status is an important reason for the retirement decision: 36 % of retired people said that they had left their job because of bad health (see Emnid, 1993, p. 41).

But in evaluating such findings it is necessary to take into account that the motives mentioned may not have been the real reasons for the decision, that the people interviewed were not confronted with real and existing models of transition to retirement, and that they were mostly unaware of the financial impact of gradual retirement. Extending working life, especially when an old-age pension is available, depends usually on economic incentives. Emnid (1993) asked people still working at pension age about their motives for doing so: 80 % mentioned that one reason was "lack of money".

Companies regard employee retirement as an important facet of personnel management. Every retirement, even gradual retirement, means a release of personnel and a vacating of a work place (see Stitzel, 1985, p 120; Viebrok, 1993, pp. 82). For the employers retirement can fulfil three major aims of personnel management (see Rosenow and Naschold, 1994, pp. 211):

1. Reducing personnel;
2. Exchanging personnel, i. e. replacing older employees by younger ones;
3. Changing personnel structure, i. e. replacing older employees by employees with higher education and qualification. Here (as in 2.) higher productivity and/or lower labour costs are expected.

Gradual retirement can, however, serve other personnel-management purposes (see Deters et al., 1989, pp. 36), for example:

4. Retaining personnel;
5. Recruiting personnel.

The objective of retaining personnel or rather maintaining human capital was the main reason for introducing models of gradual retirement in three out of the five companies investigated by Deters et al. (1989, p. 219).

Complete retirement or total reduction is, however, not always the ideal answer to personnel-structure adjustment problems. In many cases gradual retirement would be the better solution. The fact that many of the models of gradual retirement currently applied were initiated by enterprises (Deters, Staehle and Stirn, 1987, p. 35) shows that employers as well are aware of the organising potential of different forms of transition to retirement. Whether gradual retirement can be made to meet personnel-management needs depends on how authoritative

companies are in the design and application of phased retirement (Deters, Staehle and Stirn, 1987, S. 36).

Using gradual retirement for personnel objectives further depends on the availability of strategies for complete externalisation of older employees. In recent years companies have preferred to use early retirement, especially under the Pre-Retirement Act and the so-called "59-Regulation", to reduce the number of the employed and to restructure staff. A survey by Rosenow and Naschold shows that early retirement is used not only to reduce staff, since it is used in prospering as well as in declining branches, and in the service sector as well as in industry (Rosenow and Naschold, 1994, pp. 203). A study of retirement in the insurance industry in Germany indicates that early retirement is also preferred in branches with low pressure to reduce the workforce and that early retirement can help to adjust the age structure and qualification of staff (Schmähl and Gatter, 1994).

3.1.2 Work Performance

It is thanks to Thomae and Lehr (1973) that the so-called "deficit-model of growing old", which posits a general decline of physical and psychological performance as life progresses, no longer secures any serious support in the scientific literature (see also Dohse et al., 1982, pp. 14). It is only common sense to evaluate an individual's work performance in the context of the operation to be performed and of working place conditions (Deters et al., 1989, pp. 235).

Nevertheless, personnel-management theory presupposes that individual physical performance declines and experience increases with age (see Drumm, 1992, p. 122). Even though the interdependence of age and physical performance seems obvious, empirical research cannot conclusively prove decreasing work performance in older workers. Thomae and Lehr (1973) surveyed studies on the productivity of older workers. These studies carried out in different enterprises yielded different results: some indicated no differences between older and younger workers, several higher productivity for younger ones and others - surprisingly - a higher performance for older workers. The findings of Thomae and Lehr cannot claim validity for modern workplaces where new skills are required, since the studies are based on operations in traditional occupations. Older employees are said to suffer from disadvantages in learning new skills and operating new technologies (see Deters et al., 1989, pp. 235; Hentze, 1994, p. 152).

Another problem concerning work performance are higher wages of older workers because of increasing age-earnings-profiles. Göbel's study (1983), based on data on the German statutory pension scheme for blue-collar workers, indicates a positive correlation between wages and age. Similar results are given by Bellmann and Buttler (1989) using data of the Federal

Labour Office (Bundesanstalt für Arbeit). Seniority-based wage systems (see Knoll, 1994) can be a barrier to postponing retirement (see Bellmann, 1989).

A further obstacle to the employment of older people is the investment in human capital of older employees. There exist several objections to training older workers: firstly, older employees have less accumulated human capital since they have fewer formal qualifications than younger ones (see Hoffmann, 1993, p. 323). Therefore they have a smaller basis for occupational training activities. Secondly, older employees are said to be lacking in the ability to learn where new technologies are concerned (see Hentze, 1994), namely, they have a negative self-image regarding their own ability to learn and perform. Thirdly, the shorter period for amortising investment in human capital hinders vocational training of older employees from the point of view of both employer and employee. Fourthly, the higher wages of older workers mean higher opportunity costs for vocational training. Finally, older workers with strong preferences for early retirement are possibly not willing to "go to school".

3.1.3 Company Pension Regulations

In Germany the freedom to enter into contracts is guaranteed, and therefore gradual retirement could theoretically be introduced under agreements between employers and employees. In reality, however, there are only a few models of phased retirement established under the initiative of those involved. Gradual retirement has been given some emphasis only in certain collective bargaining agreements, such as in the cigarette industry, in chemicals, and in parts of the plastics and metal industries. Some firms have also individually introduced gradual retirement schemes.

Since 1978 older workers in the cigarette industry have been either entitled to reduce their work time to 20 hours weekly without any loss of income or to leave the workforce completely in return for 75 % of their last earnings (see Schwahn, 1988, pp. 88; Jacobs, 1988, p. 4). Under this agreement it was possible for women and the severely disabled to reduce employment at the age of 58 and men at 61. It was up to the employee to claim these options. Employers were able to reject an application for gradual retirement, but had to offer full retirement to the employees instead. The use of both options rose from about 70 % in 1979 to more than 90 % in the second half of the eighties. But the choice between the alternatives had changed completely: in 1979, 70.8 % decided to work part-time; in 1982, only 43.8 % opted for partial retirement. The lowest use made of the part-time option was in 1986, when only 18.1 % opted for partial retirement.

In 1985 a collective agreement on part-time work in old age was signed for the chemical industry (see Prognos, 1986, pp. 162; Kohli et al., 1989, pp. 207). Employees at 58 were entitled to choose between two alternatives: they could retire fully and receive a pre-

retirement benefit or they could work part-time and receive 70 % income replacement. It was up to the employee to initiate the reduction in work hours and up to the employer to offer one of the two options available. Until 1986, 8 % of men eligible for early retirement and 13 % of women applied for part-time work. At that time employers had consented to 22 % of the applications by men and 33 % of those by women. When part-time work was rejected employers usually offered full early retirement. Companies stated that they often had to reject applications for part-time work because they had problems in organising the flow of work and in splitting workplaces. In evaluating the alternatives to full and partial early retirement enterprises voted clearly for complete exit from the labour force. Thus far, in the opinion of employers, full retirement is a better way of reducing personnel and adjusting staff structures.

In addition, certain companies also established gradual retirement agreements. Table 9 gives an overview over the best-known models operating during the eighties.

Table 9: Company models of gradual retirement in Germany

Company	Start and duration of grad. retirement	Working hours	Income	Further conditions
Daimler Benz AG	from 60 for the last three years of employment	half-time	full income for 6 months, then gradual reducing to 80 % of the last gross income	10 years work in 3 shifts
Deutsche BP	from 55 during the last year of employment	reduction of 2 hours daily during the first 6 months, then reduction of 4 hours	full income	
IBM	from 56	half-time	50 % of the last gross income plus occupational pension	
Pieroth Weingut-Kellerei GmbH	(1) from 60 to 63 (2) from 63 to 65	(1) 35 hours weekly (2) 30 hours weekly	(1) income for 37,5 hours weekly (2) income for 35 hours weekly	10 years tenure
Siemens AG	from 56 to 63 at most 4 years	half-time	75 % of the last gross income	20 years tenure

Sources: Schüle, 1987; Schusser, 1988; Stitzel, 1985 and Viebrok, 1993.

3.1.4 Age Discrimination

In social sciences the comparison of incomes of different groups of employees is often used as an indicator of discrimination against certain categories of staff. Seniority wages are

empirically well documented, therefore income discrimination against older employees is not significant. The higher wages of older workers, however, bear risks, because wages above real or expected work productivity are an important incentive for companies to lay off older workers. The decreasing labour force participation of older workers and the early retirement strategies of enterprises seem to confirm this hypothesis. Some studies on early retirement regard older workers as victims of the externalisation strategies of companies. Other research - especially on the effects of the Pre-Retirement Act - indicates that older employees have themselves a strong preference for early retirement and that they attempt to speed up their own withdrawal from the workforce (see Kohli, 1993, pp. 191).

Early retirement is as a rule carried out with the agreement of older employees, because there is strong protection of older workers against dismissals, so they cannot easily be laid off. But "social pressure" especially in times of high unemployment of younger people can be an important factor affecting an older worker's decision to retire. Companies control the labour-force participation of older workers by using different retirement incentives. The range of methods runs from indirect measures like bad conditions at the workplace without any offer of retirement options to direct measures which offer concrete plans for retirement (see Rosenow and Naschold, 1994, pp. 220 or Naschold et al., 1994, pp. 130).

Older employees face serious problems when they are laid off and do not want to enter full retirement, because, for example, their pension would be too low. Because of existing protection against dismissals the risk of getting laid off is not extremely high for older workers. The problem of unemployment of older people is its long duration: two thirds of about 474,000 long-term unemployed are 45 or older (see Bogai et al., 1994, p. 74). A survey of long-term unemployed over 45 showed that 64 % had a stable employment biography before becoming unemployed (see Bogai et al., 1994, p. 74). Bogai et al. supposed that age itself makes it difficult to find a new job and proved this hypothesis empirically. This underlines the hypothesis that with the spread of early retirement not only does its (average) age decrease, but also the age at which a worker is looked upon as becoming "old" resulting in lower hiring probabilities. Another survey carried out with data from the employment administration confirmed the link between old age and the duration of unemployment and stressed the relevance of health status to reemployment (see Cramer and Karr, 1992). Also according to Bogai et al. (1994), health problems play an important role: two thirds of the long-term unemployed stated that they are suffering from bad health and more than 30 % had official status as disabled persons.

3.2 NEW COMPANY POLICIES

3.2.1 Personnel Policy

The need for better integration of older people into the workforce is increasingly admitted in publications on personnel management and by employers in their statements. Demographic development is influencing not only the financing of social security but also the age structure of company staff. The provision of human resources of the right quality and in the quantity desired is a key task of personnel management (see Nienhüser, 1989, p. 13). However, demographic changes will, it seems, make fulfilment of this task difficult in the future. Although there is enormous pressure to produce new personnel policies for the future, there is as yet no evidence of significant change in companies' behaviour.

3.2.2 Flexible Work and Pay Policy

Although there are flexible work arrangements in some companies or branches (in the metal and chemical industries in West Germany), which make possible reduction of weekly work hours and longer vacation for older workers also (see Weidinger and Kutscher, 1992), the main difference between such arrangements and former models of part-time work in old age is that the employers no longer substitute income loss due to reduction of work hours. It is up to the employee to save work hours during prior periods on a "time account" basis so as to enable him to reduce work activity in the period leading up to full retirement.

3.2.3 Partial Pension

Implementing partial pensions according to the 1992 Pension Reform Act raises several problems. The result is, as mentioned already, that the partial pension is hardly used as an opportunity for gradual retirement. Older employers still have a preference for early retirement, the expected shortage, for demographic reasons, of younger workers has as yet not occurred and many firms still want to cut down their staff so as to reduce labour costs.

Further problems relate to regulation of the partial pension itself. The calculation of work hours according to an earnings ceiling is a complicated exercise which requires flexible organisation of the workforce by companies. Every change in the hourly wage, for example through collective bargaining, demands fresh calculation of working hours and perhaps a changed work schedule. This involves high transaction costs for employers.

The introduction of partial pensions was accompanied by the abolishing of mandatory retirement,⁶ with the result, in particular, that provisions in collective agreements which stipulate that work contracts automatically end at 65 are no longer valid. This caused an

unintended effect: some employees abused the regulation by negotiating a golden handshake from their employer in exchange for withdrawing from the labour force. These incidents stirred up a discussion about mandatory retirement which ended with the restitution of its former legal status (see Schmähl and Gatter, 1994).

Occupational pension schemes can be an obstacle to gradual retirement when occupational pensions are paid only to workers who retire completely. Adapting entitlement to occupational pensions to payments from the statutory pension scheme will have a positive impact on the use of gradual retirement. Moreover, if the occupational pension is based on the last gross earnings, then workers choosing gradual retirement will be able to reduce their occupational pension claims.

3.2.4 Training

Development of the qualification structure of the workforce demands increased training efforts in most occupations. In workplaces in almost all sectors of the economy, the call for lower qualifications is fading while the number of higher qualified employees is increasing constantly. This trend, it is thought, will continue at least for the next decade (see Buttler and Tessaring, 1993).

Nevertheless, older employees seldom take part in further vocational training even in branches which provide many training opportunities. A study of the German insurance industry (see Schmähl and Gatter, 1994) confirms the prejudices against the learning abilities of older workers and the rejection of further training by older employees themselves. Thus the participation of older employees in extended training declines dramatically at the age of 50. The example of the insurance industry shows that there is a strong need for new personnel policies in companies in order to prepare for the changing age structure of the labour force.

Reliable data on age structure of extended vocational training on a broader base are only available for public measures financed by the Federal Labour Office. The labour administration carries out further training when people are faced with serious problems on the labour market. On account of the weak labour-market position of older workers we can assume that they are in principle an important target group for public-financed vocational training. Nevertheless, not even 10 % of all participants of such training measures are 44 and older (see Buttler, 1994, p. 35). If we make the reasonable assumption that vocational training of older workers is widely neglected in the private sector, then it can be said that an essential condition for changing the employment behaviour of older workers is lacking. Only by providing qualification facilities for older workers will the use of delayed models of gradual retirement like the partial pension under the 1992 Pension Reform Act become more common.

4 POTENTIAL FOR GRADUAL RETIREMENT AND RECOMMENDATIONS

Our analysis of the transition to retirement in Germany has shown that there is still a strong tendency to early as well as full retirement. This is in line with the current preference of many employees and in accord with the strategy of many firms to solve their firm-specific problems by externalising older workers and rejuvenating staff. Now, however, some firms are beginning to complain that reduction and rejuvenating of staff has gone too far.

Recently, there has been a public debate in Germany about the fact that the early-exit strategies of firms are shifting costs to social insurance, especially to the pension system, and are increasing contribution rates and thereby labour costs, at a time when firms are precisely demanding a reduction in those labour costs. A reform of the Act on Employment Promotion is announced for the near future and will contain measures to reduce early exit.

Regarding the rapid aging of the German population, a delay in exit from the labour force and longer periods of contribution payments to social security will be necessary for financing social insurance, especially statutory pension insurance. Gradual retirement could be a way of achieving this aim especially if, in the light of future labour-market trends, it is combined with other social policy measures as well. Part-time work is likely to increase the productivity of work per hour. This holds true for older employees, and would meet the interest of employers in reducing unit labour costs.

In 1995 labour unions proposed a gradual reduction of work time for older workers prior to being able to claim an old-age pension. There should be a right to a part-time job for older workers and earnings should be combined with benefits from unemployment insurance. However, employers may be expected strongly to contest any rule whereby employees and not employers decide upon working time arrangements. From the point of view of firms, controllability and reversibility seem to be of great importance (see Staehle 1989).

There is also an increasing debate about changing retirement ages for civil servants aimed at reducing early exit and introducing gradual retirement options, the purpose of both these measures being to lengthen working life and reduce (tax-financed) pension costs for households.

It is obvious from past experience that institutional rules matter a lot and influence behaviour and expectations. Acceptance of changes in institutional rules can be assumed to be quicker if the rules are accompanied by favourable environmental conditions as well as attractive incentives. Now however, rules are changed although environmental (e. g. labour-market) conditions remain unfavourable: in the future there will be less incentive to retire earlier.

How firms and employees react within the new legal framework will be influenced above all by labour-market conditions. Labour-market projections (e. g. Prognos, 1995; Enquete-

Kommission, 1994) point to a radical change on the labour market (mostly influenced by demographic change) after 2010. So, among other things, firms must decide whether they want to employ older workers with high qualifications longer (beyond even the reference retirement age of the statutory pension system) and on a part-time basis (women and men), or try to make up for the lack of manpower by using immigrants. Preparing for the future, then, means increased training for workers commencing in mid work-life at the very latest, as a necessary prerequisite for extending the employment of older workers in a world where the demand for highly qualified manpower is on the increase.

Given this situation, given also the growing interest among employees in flexible work-time arrangements, gradual retirement options could well give firms a competitive edge in the future struggle for a share in the limited pool of employees of qualification and experience. With life expectancy set to increase further, gradual retirement could give those able and willing to work longer an opportunity to do so, and those workers with health impairments a reprieve from untimely full retirement in the form of part-time employment.

To date, the German experience of gradual retirement has not been particularly promising. The indications are, however, that the situation is about to change.

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 - ² This pathway became known as the "59-Regulation" because workers in the past could draw unemployment benefits at the age of 59. Meanwhile this bridge to pension starts at 57 years and 4 months, taking into account 32 months of unemployment benefits before 60.
 - ³ For a detailed overview concerning the regulations earnings ceilings see Reimann (1991) and Schmähl (1992a, pp. 94).
 - ⁴ For possible future effects of these changes see Schmähl (1992a).
 - ⁵ The German Socio-economic Panel (SOEP) is a longitudinal survey of a representative sample of about 5,000 households, which started in 1984.
 - ⁶ According to § 41 Abs. 4 S. 3 Sozialgesetzbuch VI.

References

- Bellmann, L. (1989). Seniority-Based Wage Systems and Postponed Retirement. In W. Schmähl (Ed.), *Redefining the Process of Retirement*, Berlin, Heidelberg: Springer, pp. 150-162.
- Bellmann, L., Buttler, F. (1989). Lohnstrukturflexibilität - Theorie und Empirie der Transaktionskosten und Effizienzlöhne. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 22, pp. 202-217.
- Blaschke, D., Hofbauer, H., Hoffmann, E. (1986). Einstellungen älterer Arbeitnehmer zum Übergang in den Ruhestand. In Institut für Arbeitsmarkt- und Berufsforschung (Ed.), *Arbeitszeit und flexible Altersgrenze. Beiträge zur Arbeitsmarkt- und Berufsforschung No. 75*, 2nd Ed., Nürnberg: Institut für Arbeitsmarkt- und Berufsforschung, pp. 272-290.
- Börsch-Supan, A. (1992). Population Ageing, Social Security Design and Early Retirement. *Journal of Institutional and Theoretical Economics*, 148, pp. 533-557.
- Bogai, D. et al. (1994). Binnenstruktur der Langzeitarbeitslosigkeit älterer Menschen und Frauen. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 27, pp. 73-93.
- Buttler, F. and Tessaring, M. (1993). Humankapital als Standortfaktor. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 26, pp. 467-476.
- Cramer, U. and Karr, W. (1992). Lebensalter und Dauer der Arbeitslosigkeit. In C. Brinkmann and K. Schober (Ed.), *Erwerbsarbeit und Arbeitslosigkeit im Zeichen des Strukturwandels. Beiträge zur Arbeitsmarkt- und Berufsforschung No. 163*, Nürnberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit, pp. 189-206.
- Deters, J., Staehle, W. H. and Stirn, U. (1989). *Die Praxis des gleitenden Übergangs in den Ruhestand. Geht eine sozialpolitische Idee in Rente?* Berlin: Edition Sigma.
- Dohse, K., Jürgens, U. and Russig, H. (1982). Die gegenwärtige Situation älterer Arbeitnehmer im Beschäftigungssystem. Einführung in die Probleme. In K. Dohse, U. Jürgens and H. Russig (Ed.), *Ältere Arbeitnehmer zwischen Unternehmensinteressen und Sozialpolitik*, Frankfurt, New York: Campus, pp. 9-60.
- DIW (1988). Deutsches Institut für Wirtschaftsforschung. *Verteilungs-, sozial- und arbeitsmarktpolitische Bedeutung eines Teilrentensystems. Gutachten im Auftrage des Ministers für Arbeit, Gesundheit und Soziales des Landes Nordrhein-Westfalen*. Berlin.
- Drumm, H. J. (1992). *Personalwirtschaftslehre*. 2nd. Ed., Heidelberg: Springer.
- Emnid (1993). *Nachberufliche Tätigkeit älterer Menschen. Bericht*. In Bundesministerium für Arbeit und Sozialordnung (Ed.), *Forschungsbericht Nr. 226*, Bonn.
- Engfer, U., Hinrichs, K., Offe, C. and Wiesenthal, H. (1983). Arbeitszeitsituation und Arbeitszeitverkürzung in der Sicht der Beschäftigten. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 16, pp. 91-105.

- Enquete-Kommission Demographischer Wandel (1994). *Zwischenbericht - Herausforderungen unserer älter werdenden Gesellschaft an den einzelnen und die Politik*, Bonn: Deutscher Bundestag, Referat Öffentlichkeitsarbeit.
- Göbel, D. (1983). *Lebenseinkommen und Erwerbsbiographie*. Frankfurt: Campus.
- Hentze, H. (1994). Motivation älterer Mitarbeiter. Ergebnisse einer empirischen Untersuchung. *Personalführung*, 150-157.
- Hoffmann, E. (1993). Zur Beschäftigung älterer Arbeitnehmer in Westdeutschland - Qualitative und quantitative Aspekte. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 26, 313-327.
- Jacobs, K. and Schmähl, W. (1989). The Process of Retirement in Germany: Trends, Public Discussion and Options for its Redefinition. In W. Schmähl (Ed.), *Redefining the Process of Retirement*. Berlin, Heidelberg: Springer, pp. 13-38.
- Knoll, L. (1994). *Intertemporale Entlohnung und ökonomische Effizienz - ein Beitrag zur Theorie und Empirie von Alters-Verdienst-Profilen*. München: VVF.
- Kohli, M. (1993). Altersgrenzen als Manövriermasse? Das Verhältnis von Erwerbsleben und Ruhestand in einer alternden Gesellschaft. In B. Strümpel and M. Dierkes (Ed.), *Innovation und Beharrung in der Arbeitspolitik*, Stuttgart, pp. 177-208.
- Kohli, M. et al. (1989). *Je früher - desto besser? Die Verkürzung des Erwerbslebens am Beispiel des Vorruhestands in der chemischen Industrie*. Berlin: Edition Sigma.
- Landenberger, M. (1983). *Arbeitszeitwünsche. Vergleichende Analyse vorliegender Befragungsergebnisse*, Discussion paper IIM/LMP 83-17 des Wissenschaftszentrum Berlin.
- Naschold, F. et al. (1994). Germany: The Concerted Transition from Work to Welfare. In F. Naschold and B. de Vroom (Ed.), *Regulating Employment and Welfare*, Berlin, New York: de Gruyter, pp. 117-182.
- Prognos (1986). *Bestandsaufnahme und Bewertung praktizierter Modelle zu vorgezogenen Ruhestandsregelungen*. In Bundesministerium für Arbeit und Sozialordnung (Ed.), Forschungsbericht Nr. 152, Bonn.
- Prognos (1995). *Perspektiven der gesetzlichen Rentenversicherung für Gesamtdeutschland vor dem Hintergrund veränderter politischer und ökonomischer Rahmenbedingungen*. In Verband Deutscher Rentenversicherungsträger (Ed.), DRV-Schriften, Band 4, Frankfurt: VDR
- Reimann, A. (1991). Teilrente ab 1992 in der gesetzlichen Rentenversicherung. *Betriebliche Altersversorgung*, 3, pp. 61-66.
- Rosenow, J. and Naschold, F. (1994). *Die Regulierung von Altersgrenzen. Strategien von Unternehmen und die Politik des Staates*. Berlin: Edition Sigma.
- Schmähl, W. (1992a). Changing the Retirement Age in Germany. *The Geneva Papers on Risk and Insurance*, 17, pp. 81-104.

- Schmähl, W. (1992b). Transformation and Integration of Public Pension Schemes - Lessons from the process of the German Unification - *Centre for Social Policy Research, University of Bremen, Working Paper 3/92*.
- Schmähl, W. (1993). The 1992 Reform of Public Pensions in Germany: Main Elements and Some Effects. *Journal of European Social Policy*, 3, pp. 39-51.
- Schmähl, W. and Gatter, J. (1994). Options for Extending the Working Period and Flexibilising the Transition to Retirement in the German Insurance Industry - the Current Situation and Assessment for the Future. *The Geneva Papers on Risk and Insurance*, 19, pp. 433-471.
- Schüle, U. (1987). *Der gleitende Übergang in den Ruhestand als Instrument der Sozial- und Beschäftigungspolitik*. Frankfurt, Bern, New York, Paris: Lang.
- Schusser, W. H. (1988). Stufenweiser Übergang in den Ruhestand aus Sicht der betrieblichen Praxis. In W. Schmähl (Ed.), *Verkürzung oder Verlängerung der Erwerbsphase*, Tübingen: Mohr, pp. 213-224.
- Schwahn, J. (1988). Erfahrungen mit dem Vorruhestand und betrieblichen Modellen des Übergangs in den Ruhestand aus Arbeitgebersicht: Das Beispiel der Zigarettenindustrie. In W. Schmähl (Ed.), *Verkürzung oder Verlängerung der Erwerbsphase*, Tübingen: Mohr, pp. 88-95.
- Stachle, W. H. (1989). Employment of Older Persons from a Management Point of View. In W. Schmähl (Ed.), *Redefining the Process of Retirement*, Berlin, Heidelberg: Springer, pp. 163-173.
- Stitzel, M. (1985). Der gleitende Übergang in den Ruhestand - eine Pensionierungsform der Zukunft? *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 18, pp. 116-123.
- Thomae, H. and Lehr, U. (1973). *Berufliche Leistungsfähigkeit im mittleren und höheren Erwachsenenalter*. Göttingen: Verlag Otto Schwartz.
- VDR (1994). Verband Deutscher Rentenversicherungsträger. *VDR Statistik Rentenzugang des Jahres 1993*, Frankfurt: VDR.
- Viebrok, H. (1993). Rentner auf Raten. Betriebliche Gestaltungsmöglichkeiten des Übergangs vom Erwerbsleben in den Ruhestand. In Angestelltenkammer Bremen and A. Mittelstädt (Ed.), *Betriebliche Sozialpolitik. Relikt vergangener Zeiten oder Gestaltungsebene mit Zukunft?* Hamburg: VSA-Verlag, pp. 80-106.